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# NATIONAL RECOVERY ADMINISTRATION

APR 8 1936

## DIVISION OF REVIEW

EVIDENCE STUDY

NO. 23 ✓

OF

MASON CONTRACTORS INDUSTRY

(A Division of the Construction Industry)

Prepared by

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March, 1935

PRELIMINARY DRAFT

(NOT FOR RELEASE: FOR USE IN DIVISION ONLY)



## THE EVIDENCE STUDY SERIES

The EVIDENCE STUDIES were originally planned as a means of gathering evidence bearing upon various legal issues which arose under the National Industrial Recovery Act.

These studies have value quite aside from the use for which they were originally intended. Accordingly, they are now made available for confidential use within the Division of Review, and for inclusion in Code Histories.

The full list of the Evidence Studies is as follows:

- |                                     |   |
|-------------------------------------|---|
| 1. Automobile Manufacturing Ind.    | 23. Mason Contractors Industry                |
| 2. Boot and Shoe Mfg. Ind.          | 24. Men's Clothing Industry                   |
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| 11. Electrical Mfg. Ind.            | 33. Retail Solid Fuel (Dropped)               |
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In addition to the studies brought to completion, certain materials have been assembled for other industries. These MATERIALS are included in the series and are also made available for confidential use within the Division of Review and for inclusion in Code Histories, as follows:

- |                                    |  |
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| 48. Coat and Suit Ind.             | 53. Wholesaling or Distributing Trade        |

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Director, Division of Review

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# CONTENTS

	<u>Page</u>
Foreword . . . . .	1
CHAPTER I - THE NATURE OF THE INDUSTRY . . . . .	2
Code Definition. . . . .	2
Number of Members. . . . .	2
Census Data . . . . .	2
Trade Association and Code Authority	
Data . . . . .	3
Geographical Distribution of	
Establishments. . . . .	3
Census Data. . . . .	3
Code Authority Data. . . . .	4
Size of Establishments . . . . .	5
Capital Investment . . . . .	5
Census Data . . . . .	5
Trade Association Data. . . . .	6
Total Value of Business. . . . .	6
Census Data . . . . .	6
Trade Association Data. . . . .	6
Competition within the Industry. . . . .	6
CHAPTER II - LABOR STATISTICS . . . . .	8
Number of Wage Earners . . . . .	8
Census Data . . . . .	8
Trade Association Data. . . . .	8
Trade Union Data. . . . .	8
Seasonal Variation in Employment . . . . .	9
Number of Days Worked per Year . . . . .	10
Number of Masons and Tile Layers by	
Principal States. . . . .	10
Employees Under 16 Years of Age. . . . .	10
Total Annual Wages . . . . .	11
Hourly Wage Rates and Annual Earnings. . . . .	11
Hourly Wage Rates by Zones . . . . .	12
Relation of Wages to Value of Work . . . . .	14
CHAPTER III - MATERIALS. . . . .	15
Kind of Materials. . . . .	15
Expenditures for Materials . . . . .	15
Sources of Materials by Principal States . . . . .	15
Imports of Materials . . . . .	17
Types of Equipment . . . . .	17
Expenditures for Equipment . . . . .	17
Relation of Cost of Materials to	
Total Value of Business . . . . .	17



## CONTENTS (Cont'd)

	<u>Page</u>
CHAPTER IV - PRODUCTION. . . . .	18
Estimated Value of Business, by	
Principal States . . . . .	18
Value of Business Done Outside	
Home State . . . . .	19
Productive Capacity . . . . .	19
Advertising . . . . .	19
CHAPTER V - TRADE PRACTICES . . . . .	20
Unfair Trade Practices Prior	
to the Code. . . . .	20
Trade Practices which, Because of	
Abusive Use, Became Detrimental. . . . .	22
CHAPTER VI - THE INDUSTRY - GENERAL INFORMATION. . . . .	24
Beginnings of the Industry. . . . .	24
Distribution of Masonry Work in the	
Construction Industry. . . . .	24
Changes in Building Construction and	
Their Effect on the Mason Contracting	
Industry . . . . .	24
Financial Condition of the Industry . . . . .	24
Organizations of Labor Employed by	
Mason Contractors. . . . .	27
Jurisdictional Disputes of Trade Unions . . . . .	27
Effect of New Materials and New Technique	
on Workers . . . . .	28
Effect of New Materials and New Technique	
on Employers . . . . .	28
The Effect of the Code. . . . .	28
Experts in the Industry . . . . .	29





# TABLES

	<u>Page</u>
TABLE I - Number of Mason Subcontractors Establishments by 10 Principal States, 1929. . . . .	4
TABLE II - Number of Mason Contractors on Code Authority Mailing List, by 10 Principal States, May, 1935 . . . . .	5
TABLE III - Wage Earners Employed by 612 Masonry Subcontractors, by Months, 1929. . . . .	9
TABLE IV - Number of Brick and Stone Masons and Tile Layers, by 10 Principal States, 1930. . . . .	10
TABLE V - Average Hourly Wage Rates, Average Annual Hours, and Average Annual Earnings of Masons, by Selected Areas, 1929 and 1933. . . . .	11
TABLE VI - Average Hourly Wage Rates of Masons and Masons' Tenders . . . . .	12
TABLE VII - Unweighted Average Hourly Wage Rates of Masons, by 3 Zones, 1933. . . . .	13
TABLE VIII - Average Hourly Wage Rates of Masons and Masons' Tenders, by 3 Zones, 1929 and 1933. . . . .	13
TABLE IX - Cost of Material Used by 673 Masonry Subcontractors, by Kind of Material, 1929. . . . .	15
TABLE X - Production of Chief Materials Used in Masonry Construction, by Principal Producing States, 1929 . . . . .	18
TABLE XI - Estimated Value of Business Done by 4,032 Masonry Subcontractors, by 10 Principal States, 1929. . . . .	18
TABLE XII - Value of Business Done Outside Home State by 660 Masonry Subcontractors, by 10 Principal States, 1929. . . . .	19
TABLE XIII - Gross and Net Income, 1929, 1931 and 1932 . . . . .	26
TABLE XIV - Voting Strength of Trade Unions Functioning in the Mason Contracting Industry . . . . .	27



## MASON CONTRACTORS INDUSTRY

(A Division of the Construction Industry)

### Foreword

It has not been possible to obtain accurate data representative of the entire Mason Contractors Industry as defined by the Code. Data in the Census of Construction report, the most satisfactory source of statistical information on the Industry, can be segregated only for establishments which reported masonry subcontract work as their major field of operations in 1929. The Code, however, was assumed to embrace all classes of contractors, general, subcontractors, and operative builders, performing the type of masonry work defined in the Code. As it is believed that the major portion of the masonry work defined by the Code is done by general contractors, practically all of the Census of Construction data used in this report are representative of only a minor part of the Industry.

The Trade Association of the Industry, the Mason Contractors Association of the United States and Canada, reported some statistics in applying for a Code but those figures cannot be relied upon for reasons specified in the body of this report.

The only usable data supplied by the Code Authority, the number of mason contractors by states, are not representative of the entire Industry because the list does not include general contractors performing masonry work within the Code definition.



## Chapter I

## THE NATURE OF THE INDUSTRY

Code Definition

The Mason Contractors Industry is a division of the Construction Industry, and is defined in the Supplementary Code of Fair Competition for the Industry, approved April 19, 1934, as follows:

"The Term 'Mason Contractors Division', or 'this division', as used herein means the contracting for and the erection in the United States of America, of all types of brick work, rubble stone, cinder block masonry, ornamental terra cotta, salt glazed tile, hollow tile, and gypsum block, including the furnishing of any labor or materials incident thereto; and such branches or sub-divisions thereof as may from time to time be included under the provisions of this Chapter, subject to the approval of the Construction Code Authority and the Administrator."

The type of work described above is done by several classes of contractors -- general contractors, masonry subcontractors, and other subcontractors -- and as the Code did not specify the class or classes of contractors who would come under this Division of the Construction Industry it was assumed that all contractors who did masonry work, as described in the Code, came under the Code.

Number of Members

The various sources from which data in this study were drawn used different terms in reporting the number of members of the Industry, such as, "establishments", "concerns", "firms", but for all practical purposes these terms are synonymous since multiplant operation is practically non-existent in this Industry.

The number of members of the Industry can not be accurately determined. All classes of contractors who did masonry work, as defined by the Code, were presumably covered by the Code, but the number of establishments reported by each class of contractors can not be taken to indicate the number engaged in masonry work since it is not known that all of them actually do this kind of work. However, an indication of the approximate number may be had by comparing data from various sources.

Census Data. - The number of masonry subcontractors reported in the Census of Construction, 1929, is 4,032. This figure represents merely the minimum number of the members of the Industry in 1929, since not all establishments engaged in construction work reported in the Census of Construction, and of the number which did report, only those subcontracting establishments where masonry work was the major line of business, were reported as masonry subcontractors. All other subcontractors who did masonry work during 1929, but who reported some other type of construction work as their major line of business were not counted as masonry subcontractors. The number of such establishments cannot be determined.



In addition to that done by subcontractors, a considerable portion, perhaps the major portion, of masonry work is done by general building contractors, 37,579 1/, of whom reported in the Census of Construction in 1929. Some masonry work is also done by operative builders 2/, 750 of whom reported in the Census.

Trade Association and Code Authority Data. - The trade association of the Industry, the Mason Contractors Association of the United States and Canada, reported in the Code application the number of concerns in the Industry as follows: 3,500 in 1929, 2,800 in 1931, and 2,500 in 1933. These estimates are apparently inaccurate since 4,032 masonry subcontractors alone reported in the Census of Construction of 1929.

The former Code Authority for the Industry reported that there were 8,060 members in May 1935, but this figure also understates the actual number since it does not include those general contractors who perform masonry work, as defined by the Code.

#### Geographical Distribution of Establishments

The Industry is widely distributed throughout the country, being closely related to the distribution of general building construction.

Census Data. - The distribution of the masonry subcontractors who reported in the Census of Construction, by ten principal states, and by size of establishment, is given in Table I.

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1/ This figure derived from Tables 1 and 12 of the Census of Construction report.

2/ An operative builder is defined in the Census of Construction as one who is both owner and builder, selling a finished structure to a purchaser or operating it himself.





TABLE I

Number of Mason Subcontractors Establishments,  
by 10 Principal States, 1929.

State	Total		Establishments whose Business was			
	Establishments		\$25,000 or over a/		Less than \$25,000 b/	
	Number	Per Cent of total	Number	Per Cent of total	Number	Per cent of total
U. S. Total	4,032	100.0	673	100.0	3,359	100.0
New York	668	16.6	100	14.9	568	16.9
Pennsylvania	388	9.6	93	13.8	295	8.8
Illinois	380	9.4	94	14.0	286	8.5
New Jersey	343	8.5	46	6.8	297	8.8
California	318	7.9	58	8.6	260	7.7
Connecticut	274	6.9	16	2.4	258	7.7
Michigan	267	6.6	30	4.5	237	7.2
Massachusetts	243	6.0	30	4.5	213	6.3
Ohio	165	4.1	36	5.3	129	3.8
Wisconsin	142	3.5	29	4.3	113	3.4
Total, 10 States	3,188	79.1	532	79.1	2,656	79.1
Total, Other States	844	20.9	141	20.9	703	20.9

Source: Census report, Construction Industry, 1929; Subcontractors, "Masonry."

a/ As given in Table I of the Census Report.

b/ As given in Table 12 of the Census Report.

Code Authority Data. - The former Code Authority submitted its mailing list of mason contractors, as of May 1935. This list includes a total of 8,060 mason contractors, exclusive of general contractors, located in 46 states and the District of Columbia. The number in the ten leading states, as shown by this list is given in Table II.

Although the years covered by this table and Table I are not the same, and although the list of states is not identical, both sets of data indicate that there is a decided concentration of establishments in the more highly industrialized states.



TABLE II

Number of Mason Contractors on Code Authority Mailing  
List, by 10 Principal States, May 1935 a/

State	Mason Contractors	
	Number	Per Cent of Total
U. S. Total	8,060	100.0
New York	1,144	14.2
Illinois	1,095	13.6
Missouri	819	10.2
Pennsylvania	765	9.5
Massachusetts	564	7.0
New Jersey	535	6.6
Ohio	512	6.4
California	457	5.7
Connecticut	296	3.7
Indiana	190	2.4
Total, 10 States	6,377	79.1
Total, Other States	1,683	20.9

Source: Code Authority for Mason Contractors Industry.

a/ General contractors and operative builders doing masonry work were not included in this list.

#### Size of Establishments

The size of establishments in this Industry is a factor that is constantly changing. Some contractors run large establishments, and employ a large force of labor, while they are carrying out a contract. But there are periods when these same contractors have no contract and practically no labor force. It may be useful in this connection, however, to know that in 1929, of the total number of masonry subcontractors reporting in the Census of Construction, 673, or 17 per cent, did a business of over \$25,000 that year and 3,359, or 83 per cent, did a business of less than \$25,000.

#### Capital Investment

Census Data. - The only Census of Construction data bearing on capital invested in the Industry are figures showing the inventory value of equipment at the end of 1929. For 604 masonry subcontractors in the "\$25,000 and over" group who reported this information, this value amounted to \$2,448,000 or an average of approximately \$4,054 per establishment.

These values, of course, do not include investment in office and yard space, operating capital, etc.



Trade Association Data. - In its Code application the trade association reported that the capital invested in the Industry amounted to \$2,500,000 in 1929 and \$2,000,000 in 1933. The basis of these estimates is not known and the accuracy of the figures cannot be ascertained.

### Total Value of Business

Census Data. - It has been estimated that the 4,032 masonry subcontractors reporting in the Census of Construction in 1929 did a total value of business amounting to \$111,828,000 in that year. The 673 establishments in the "\$25,000 and over" group reported \$85,023,000 of this amount and it was estimated, on the basis of the average value per establishment for those establishments reporting, that the 3,359 subcontractors in the "less than \$25,000" group did a business of \$26,805,000. These figures include an unknown amount of types of masonry work which were not embraced by the Code definition of the Industry.

The value of masonry work done by general building contractors and all other contractors was not reported in the Census of Construction. That these contractors did more masonry work than masonry subcontractors, however, is apparent from Census data which show the cost of materials furnished and used by the various classes of contractors in 1929. The combined cost of brick, tile (fireproofing), concrete and cinder block, riprap and rubble, supplied by contractors in the "\$25,000 and over" group in 1929 was distributed as follows:

Total cost	\$84,872,973	100%
General building contractors -	59,122,204	62%
Masonry subcontractors -	17,113,185	18%
Other contractors -	18,637,584	20%

Trade Association Data. - The only figure reported by the trade association on value of business was \$600,000,000 for the year 1932. This figure, divided by the number of concerns in 1932 (2,500), reported by the same agency, yields a figure of \$240,000 as the average value per establishment. This seems excessive as the average value per establishment among the masonry subcontractors in the "\$25,000 and over" group reporting in the Census of Construction was only \$126,000 in 1929.

The former Code Authority claimed that mason contractors do 50 per cent of the total masonry work done, but it has supplied no data in substantiation of this statement.

### Competition within the Industry

Competition within this Industry occurs among the several types of mason contractors. With few exceptions all mason work is bid upon in competition, whether it is let under separate contract by owner or architect, by general contract to be performed under the general contractor's superintendence, or whether it is sublet by the general contractor to a mason subcontractor.

Competition increased, according to members of the Industry, to a point which forced 30 per cent of the contractors from business between 1929 and



1932. This estimate is probably too conservative. Since practically all work is let to the lowest bidder and since all bids are based on estimates of future costs and conditions, and with an eye on what competitors may be thinking of the future, there is, during time of industrial unemployment, little chance of making profits except through cutting wages or beating down material prices below the amounts already discounted during the drafting of estimates. Under these competitive conditions, bid prices, material prices, and wages in this industry tend to decline more rapidly during periods of depression than is the case in manufacturing industries.





## Chapter II

### LABOR STATISTICS

#### Number of Wage Earners

Census Data. - Census of Construction data are inadequate to indicate total employment in this Industry. Figures are available only for masonry subcontractors and the data, which show the number of wage earners employed on the 15th day of each month in 1929, cannot be accepted as representing total employment, even in those establishments which reported. Inasmuch as there is a constant turnover in employees in this Industry, the number employed on any one day represents merely the minimum number of individuals employed during the year.

Census of Occupations data give a better indication of the total number employed in this Industry, although there are certain limitations to these data also. In this Census, taken April 1930, 157,180 individuals were classified as "brick and stone masons and tile layers", normally employed in the building industry. However, all of these individuals were not working at the time of the Census. The number of wage earners who reported themselves as normally employed in the building industry at the above mentioned occupations but who were out of work at the time of the Census was not given in the Census report. However, of the total 170,903 persons normally employed as "brick and stone masons and tile layers" in all manufacturing and mechanical industries, including the building industry, 44,828 or about 26 per cent of the total, were unemployed at the time of the Census.

The number of masons' tenders and other classes of wage earners in the Industry was not reported separately in the Census of Occupations.

Trade Association Data. - The number of employees in the Industry was reported in the Code application by the trade association as follows: 120,000 in 1929, 100,000 in 1931, and 90,000 in 1933. These figures are apparently purely arbitrary estimates and there are no other data available with which to check them.

Trade Union Data. - The total number of members in the Bricklayers, Masons and Plasterers International Union of America was reported as 125,000 in 1929. <sup>1/</sup> This number includes Canadian members, and also tile and mantel setters, cut stone masons, plasterers, and other minor trowel trades, all of whom were not included in the Industry as defined by the Code.

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<sup>1/</sup> Bureau of Labor Statistics, Handbook of American Trade Unions (Bulletin No. 506).



# Seasonal Variation in Employment

Employment in this Industry, as in most divisions of the Construction Industry, is strongly affected by seasonal factors. Data in the Census of Construction, which show the number of wage earners employed on the 15th day of each month during 1929 in the masonry subcontracting establishments which reported, will give some indication of the extent of this variation. The statistics are given in Table III.

TABLE III

Wage Earners Employed by 612 Masonry Subcontractors, by Months, 1929 a/.

Month	Number of Wage Earners <u>b/</u>	Per cent of Maximum Month
January	11,480	67.1
February	11,979	70.0
March	13,702	80.0
April	15,261	89.1
May	17,072	99.7
June	17,120	100.0
July	16,647	97.2
August	15,946	93.1
September	15,382	89.8
October	15,109	88.3
November	14,312	83.6
December	12,412	72.5

Source: Census report Construction Industry, 1929, Subcontractors  
"Masonry."

a/ The 612 masonry subcontractors who reported the number of wage earners were in the group doing a business of \$25,000 and over in 1929.

b/ The number of wage earners employed on the 15th, or nearest representative day of each month.

## Number of Days Worked per Year

In the Report of the Committee on Seasonal Operations in the Construction Industry data are given which indicate that the average number of days worked by masons in the peak construction year of 1928 was about 200. During the years following 1928 regularity of employment was decreased considerably. During 1933 it is probable that the average number of days worked by masons and masons' tenders was less than 100, due to difficulties in obtaining new work when jobs were completed and due also to the "spread the work" idea encouraged by employers and labor organizations.



Number of Masons and Tile Layers by Principal States

Comprehensive figures on the number of wage earners by principal states are obtainable only from Census of Occupations reports which show the number of brick and stone masons and tile layers in all manufacturing and mechanical industries. As indicated above, these data must be understood to refer to the number reporting themselves as belonging, by occupation, to these industries rather than to the number actually employed. The figures for ten leading states are given in Table IV. Data on the number of masons' tenders and other laborers in the industry are not available.

TABLE IV

Number of Brick and Stone Masons and Tile Layers,  
by 10 Principal States, 1930

States	Number	Per Cent of Total
U. S. Total	170,903	100.0
New York	31,537	18.5
Pennsylvania	16,492	9.6
Illinois	14,001	8.2
New Jersey	12,706	7.4
Ohio	10,495	6.1
Michigan	8,883	5.2
Massachusetts	7,285	4.3
California	5,411	3.2
Wisconsin	4,554	2.7
Connecticut	4,348	2.5
Total, 10 States	115,762	67.7
Total, Other States	55,141	32.3

Source: Census of Population, 1930, Volume IV; Occupations By States

Employees Under 16 Years of Age

The minimum age for apprentices in the various building trades is now 18 years, which tends to keep the number of workers in the industry under 16 years at a minimum. Under the Code, even the employment of water boys, etc., under 16 years of age, was prohibited.

Total Annual Wages

There are no data available on the total annual wages paid in the industry. The Census of Construction reports only wages paid in masonry work by masonry subcontractors, who, it has been pointed out, do a minor portion of the total volume of masonry work.



# Hourly Wage Rates and Annual Earnings

Hourly wage rates in this industry are relatively high. A mason is one of the most highly paid craftsman in the building trades and a mason's tender usually receives a higher wage rate than a common laborer. However, as employment is spasmodic and much time is lost between jobs, the average annual earnings per worker are not very large. From rather reasonable levels obtained in 1929, average annual earnings declined drastically in the following depression years, due to the slashing of hourly wage rates and the scarcity of work.

Some indication of the extent of the decline in hourly wage rates of masons and the work available to them, with the consequent decline in their annual earnings, is afforded by data compiled by the NRA Division of Research and Planning, and given in Table V.

In 1929 wage rates were somewhat stable and it was possible to estimate average hourly wage rates and the average number of hours worked during the year in four areas, for which data were available. By 1933, however, wage rates had become so unstable that average rates and hours could not be calculated. Maximum hourly wage rates and number of hours worked -- and the minimum when available -- are therefore given instead. Average annual earnings which are presented for both years indicate that 1933 earnings were only a small fraction of those reported for 1929.

TABLE V

Average Hourly Wage Rates, Average Annual Hours, and  
Average Annual Earnings of Masons, by Selected Areas,  
1929 and 1933

Area	1929			1933		
	Average Hourly Wage Rate	Average Hours Per Year	Average Annual Earnings	Minimum and Max- imum Hour- ly Wage Rates	Minimum and Maximum Hours Per Year	Average Annual Earnings
St. Louis, Mo.	\$1.75	1,030	\$1,800	\$75-\$1.50	320-635	\$475
Houston, Texas	1.63	1,060	1,720	a/ - 1.00	a/ -290	290
Los Angeles, Calif.	1.37	1,190	1,625	a/ - 1.00	a/ -316	316
Bridgeport, Conn.	1.63	800	1,304	a/ - 1.38	a/ -120	166

Source: Compiled by NRA, Division of Research and Planning, from area agreement data.

a/ Minimum unknown.





Further data on average hourly wage rates, as reported by various agencies representing a wide coverage of cities, are given in Table VI for masons and masons' tenders. The figures given here, while concealing the variance in the rates between sections of the country, serve to indicate the trend in the rates throughout the country between the years 1929 and 1934.

TABLE VI  
Average Hourly Wage Rates of Masons  
and Masons' Tenders

Year	Masons		Masons' Tenders	
	Rate	Number of Cities Covered	Rate	Number of Cities Covered
1929	\$1.512 <sub>a</sub> /	114	\$ . 731 <sub>a</sub> /	103
1931	1.509 <sub>a</sub> /	121	. 764 <sub>a</sub> /	110
1933	1.204 <sub>a</sub> /	115	. 624 <sub>a</sub> /	96
	1.203 <sub>b</sub> /	135	---	---
	.285 <sub>c</sub> /	199	---	---
	1.218 <sub>d</sub> /	48	---	---
	1.237 <sub>a</sub> /	115	. 657 <sub>a</sub> /	107
1934	1.214 <sub>d</sub> /	46	---	---

Source: Compiled by NRA, Research and Planning Division from Sources as indicated in the footnotes.

- a/ Builders Association.
- b/ Bricklayers, Masons, and Plasterers International Union.
- c/ Associated General Contractors of America.
- d/ National Association of Builders Exchanges.

#### Hourly Wage Rates by Zones

Wage rates in the industry vary considerably among the various section of the country. The extent of this variance is indicated by data given in Table VII, which show the average rate paid masons in three zones in 1935, as reported by several agencies.



TABLE VII

Unweighted Average Hourly Wage Rates of Masons,  
by 3 zones, 1933

Reporting Agency	Zone		
	Northern	Central	Southern
Associated General Contractors	\$ .96	\$ .87	\$ .70
Bricklayers, Masons and Plasterers International Union	1.21	1.17	1.22
Builders' Association	1.17	1.21	1.09
National Association of Builders Exchanges	1.22	1.20	1.13

Source: Compiled by IIRA, Research and Planning Division as follows:

Builders' Association data -- rotoprint releases published by it;  
Bricklayers, Masons, and Plasterers Union data -- special tabulation for IIRA, Research and Planning Division;  
Associated General Contractors data -- as tabulated by the Association from questionnaire sent out by it;  
National Association of Builders' Exchanges data -- as published in the Architectural Record.

The extent of the decline in the hourly wage rates of masons and masons' tenders in the three selected zones between 1929 and 1933 is indicated by data compiled by the Builders Association and shown in Table VIII.

TABLE VIII

Average Hourly Wage Rates of Masons and Masons' Tenders,  
by 3 zones, 1929 and 1933

Zone	Masons			Masons' Tenders		
	1929	1933	Per Cent Decline	1929	1933	Per Cent Decline 1929-1933
Northern	\$1.47	\$1.17	20.4	\$ .78	\$ .61	21.8
Central	1.49	1.21	18.8	.66	.56	15.2
Southern	1.40	1.09	22.1	.46	.41	10.9

Source: Builders Association.



Relation of Wages to Value of Work

The percentage relationship between the amount of wages paid and the total value of work done may be estimated from Census of Construction data. The 673 masonry subcontractors in the "\$25,000 and over" class who were covered in this Census reported that the total value of their business in 1929 amounted to \$85,023,000 of which \$2,634,000 was let out by them under subcontracts. Subtracting the value of the work sublet from the total value of business handled gives a figure of \$82,389,000 as representing the value of work done by the reporting contractors' own labor forces. Of this amount, \$32,749,000 or 39.7 per cent, was paid out in wages.



# Chapter III

## MATERIALS

### Kind of Materials

The principal materials used in the Industry are: brick, rubble stone, cinder and concrete block, gypsum block, ornamental terra cotta, salt glazed tile, hollow tile, sand, cement and lime.

### Expenditures For Materials

Data on the total amount spent for materials by the Industry are not available. The total cost of materials furnished and used in 1929 by 673 masonry subcontractors who reported in the Census of Construction amounted to \$34,191,000, which represents merely the minimum amount spent by the entire Industry. The distribution of the cost by principal materials used is given in Table IX.

TABLE IX

Cost of Material Used by 673 Masonry Subcontractors,  
by Kind of Material, 1929

Kind of Material	Cost of Specified Material <sup>a/</sup> (000's)	Per Cent of Total Cost
Total Cost, all Kinds	\$34,191	100.0
Brick (face, common, fire, paving, etc.)	14,873	43.5
Tile (fireproofing)	5,846	17.1
Sand, gravel, stone, slag, cinders, etc.	2,975	8.7
Cement	2,303	8.2
Lime	1,060	3.1
Concrete and cinder block	923	2.7
Tile (facing, terra cotta, floor, and wall)	821	2.4
All Other	4,890	14.3

Source: Census report, Construction Industry, 1929; Subcontractors, "Masonry."

<sup>a/</sup> The cost of each specified material has been estimated for the 673 establishments on the basis of data from establishments accounting for 78.6 per cent of the total cost of materials.

### Sources of Materials by Principal States

The states which are the leading producers of principal materials used by the Industry are listed in Table X, which shows the total volume of each material produced in these states in 1929. It is not known what proportion of the total United States production, or of each state's production, is used by this Industry.





TABLE X

Production of Chief Materials Used in Masonry Construction,  
by Principal Producing States, 1929

State	Portland Cement		Common Brick		Face Brick		Hollow Building Tile		Line, Hydrated and Quick	
	In Thousand Barrels of U.S. Total	Per Cent of U.S. Total	In Mill- ions Total	Per Cent of U.S. Total	In Mill- ions Total	Per Cent of U.S. Total	In Mill- ions Total	Per Cent of U.S. Total	In Thou- sand Tons Total	Per Cent of U.S. Total
U. S. Total	169,868	100.0	5,505	100.0	2,139	100.0	3,318	100.0	3,256	100.0
California	12,965	7.6	238	5.2	---	---	---	---	---	---
Illinois	---	---	836	15.2	220	10.3	280	8.4	---	---
Indiana	---	---	---	---	130	6.1	---	---	---	---
Iowa	---	---	---	---	---	---	234	7.0	---	---
Michigan	15,326	7.8	---	---	---	---	---	---	---	---
Missouri	---	---	---	---	---	---	---	---	318	9.8
New Jersey	---	---	---	---	---	---	434	13.1	---	---
New York	10,703	6.3	764	13.9	---	---	---	---	---	---
Ohio	5,204	3.1	260	4.7	521	23.4	745	22.5	568	17.4
Pennsylvania	39,310	23.1	418	7.6	466	21.8	253	7.7	425	13.0
Tennessee	---	---	---	---	---	---	---	---	168	5.2
Texas	---	---	---	---	96	4.5	---	---	---	---
West Virginia	---	---	---	---	---	---	---	---	241	7.4
Total, 5 leading States Producing Specified Materials	55,488	50.2	2,566	46.6	1,413	66.1	1,946	58.7	1,720	52.8
Total, Other States	84,380	49.8	2,939	53.4	726	33.9	1,372	41.3	1,536	47.2

Source: Census of Manufactures, 1929, "Cement," "Clay Products (Other than Pottery) and Nonclay Refrac-  
tories," and "Lime." Data for cement and lime do not cover establishments whose products were  
valued at less than \$5,000 in 1929.



### Imports of Materials

The volume of imports of materials used by the Industry is negligible. A small amount of cement is imported from Belgium and Denmark, and some brick are imported from Germany and Denmark.

### Types of Equipment

The equipment used in the Industry comprises the following: hoisting equipment, scaffolding, handling equipment, and small tools, such as shovels, trowels, etc.

### Expenditures for Equipment

The total amount spent for equipment by the Industry in any one year is not known. In the Census of Construction, 604 masonry subcontractors in the "\$25,000 and over" group reported expenditures for equipment in 1929 amounting to \$871,578. The inventory value of the equipment of these establishments at the end of the year 1929 was reported as \$2,448,418.

### Relation of Cost of Materials to Total Value of Business

The approximate percentage relationship between cost of materials and total value of business handled may be estimated from data furnished by masonry subcontractors in the Census of Construction. The 673 masonry subcontractors in the "\$25,000 and over" group covered in this Census reported total value of business handled as \$85,023,000. The cost of materials furnished and used amounted to \$34,191,000, or approximately 40 per cent of the total value of business.



## Chapter IV

## PRODUCTION

Estimated Value of Business, by Principal States

The "products" of the Industry are represented by contracts made and performed and the best available measure of total production is the value of business transacted.

Masonry work is distributed throughout the country, being closely related to the distribution of general building construction, which is generally governed by industrial developments, land booms, and the like.

The total value of masonry work done in each state by all classes of contractors is not known. The value of the work done in the ten leading states by the 4,032 masonry subcontractors who reported in the Census of Construction has been estimated on the basis of the average value per establishment for those establishments which reported. The figures are given in Table XI.

TABLE XI

Estimated Value of Business Done By 4,032 Masonry Subcontractors, by 10 Principal States, 1929

State	Amount <u>a</u> / (000's)	Per Cent of Total
U.S. Total	\$111,828	100.0
New York	23,542	21.1
Illinois	21,211	19.0
Pennsylvania	13,808	12.3
California	6,541	5.9
Michigan	5,949	5.3
New Jersey	5,734	5.1
Ohio	4,393	3.8
Massachusetts	3,345	3.0
Connecticut	2,864	2.6
Wisconsin	2,653	2.4
Total, 10 States	90,043	80.5
Total, Other States	21,785	19.5

Source: Census report, Construction Industry, 1929: Subcontractors, "Masonry,"

a/ The values were estimated for the United States and for each state on the basis of the average value per establishment of those establishments which reported. An unknown proportion of the values here given represent types of work not covered by the Code for the Mason Contractors Industry.



Value of Business Done Outside Home State

The proportion of the total masonry work done by contractors outside of the state in which they are located is indicated by Census of Construction data, for 660 masonry subcontractors. The figures, which show the total amount of business reported by these establishments together with the amount done outside the home state, are given in Table XII, broken down by ten principal states. All of the 660 subcontractors who reported this information were in the "\$25,000 and over" group.

TABLE XII

Value of Business Done Outside Home State By 660 Masonry Subcontractors, by 10 Principal States, 1929

State	Number of Establishments Reporting <u>a/</u>	Value of Total Business (000's)	Value of Business Done Outside Home State	
			Amount (000's)	Per Cent of Total Business
U. S. Total	660	\$80,008	\$10,068	12.6
New York	98	18,260	1,804	9.9
Illinois	92	16,080	3,396	21.1
Pennsylvania	95	10,846	656	6.0
California	57	4,325	176	4.1
Michigan	30	4,243	1,525	35.9
New Jersey	44	2,868	10	0.3
Ohio	35	2,781	57	2.0
Wisconsin	29	1,894	6	0.3
Massachusetts	30	1,794	175	9.3
Connecticut	16	741	---	---
Total, 10 States	524	63,875	7,805	12.2
Total, Other States	136	16,133	2,263	14.0

Source: Census report: Construction Industry, 1929; Subcontractors, "Masonry".

a/ The establishments reporting were in the group doing a business of \$25,000 and over in 1929.

Productive Capacity

The productive capacity of this Industry is limited only by the amount of capital and labor available for operations. At no time has the scarcity of these two items held up the performance of work materially. During the period from 1924 to 1929 there was a scarcity of skilled workers in certain localities but the condition was not general and never became acute.

Advertising

National advertising by the Industry is negligible in total amount and is confined, in general, to magazines and newspapers. A small amount of advertising is done locally by radio.





## Chapter V

### TRADE PRACTICES

#### Unfair Trade Practices Prior to the Code

Examples of unfair trade practices that existed prior to the Code are:

(1) The Turning out by Architects or Engineers, in Competition with other Architects, Engineers or Public Officials, of Deficient Plans or Specifications. - Contractors were forced to base their bids on these plans, and this frequently resulted in losses to contractors or to owners.

(2) The Calling for an Excessive Number of Alternate Bid Proposals. - This greatly increased the cost of preparing bids, and may have been a device to beat down bid prices.

(3) Bid Peddling. - A contractor was considered to be "peddling" his bid if, after having already submitted an original bid on a project, he learned what the low bid on the project was and offered by some means or other to reduce his bid below the low bid, or if by other devices he lowered his original bid. The result of the practice was to lower prices and standards in the Industry.

(4) Bid Shopping. - An awarding authority was considered to be engaged in "bid shopping" when it rejected all original bids on a project, often revealing the low bid, for the purpose of calling for new bids at still lower prices, or when it by other devices sought to induce a low bidder to reduce his price. The effect upon the Industry was the same as that of "bid peddling."

(5) The Withholding by General Contractors of Payments Due to Sub-Contractors or Material Supply Dealers. - Contractors hoped to utilize the funds withheld to finance other projects for which, because of financial stringencies, they were having difficulty in obtaining necessary money.

(6) Excessive Back-Charging. - This practice was first used on large projects. When a subcontractor had performed his share of a job, he would be presented with a bill from the general contractor calling for the payment of excessive fees for having used some of the contractor's equipment, such as scaffolding or hoists.

(7) Substitution of Inferior Materials. - Intense competition giving rise to the practice of bid peddling and bid shopping, and resulting in prices which were unreasonably low, often forced general contractors and subcontractors to substitute cheap and inferior materials in order to save themselves possible losses on projects where prices had thus been cut. Desire for greater profit also resulted in the substitution of inferior materials.

(8) Unbalanced Bidding. - This was a practice in which contractors in heavy and highway construction ordinarily engaged. On many projects, bids were based on numerous and different units, such as per cubic yard of dirt or rock to be removed, or per thousand feet of lumber or per thousand



brick or tile to be used. By taking advantage of their own findings on the number of units and their costs, as against the specifications of an awarding authority's engineer, contractors regulated the specific bids on units of work so that the total of their bids for all units would be low and at the same time might have brought high profits on certain units of the work which they suspected would be more numerous than the awarding authority's engineer had estimated. Likewise, by quoting high prices on units of work which would be completed in the early life of a project and keeping the units performed near the end at a low price, a contractor was able to force an owner to bear a large portion of the financing costs through the greater part of the life of the project while keeping his total bid sufficiently low. The unbalancing of bids, of course, assumed many other forms.

(9) Reducing Wages, Lengthening Working Hours and Debasing Other Conditions of Workmen. - These practices arose from accentuated depression conditions. They broke down the foundation upon which the competitive standards, such as they were, had been maintained and helped plunge the industry into the condition existing in 1933.

(10) Inequities Arising from Loose Credit Practices. - Lien laws made and still make owners, as well as contractors, responsible for the payment of material and other bills. As a result, credit often was loosely extended to irresponsible contractors, who would finish projects and leave debts for materials, etc., to be paid by owners. The ability to employ this method to defraud owners naturally resulted in loose bidding by irresponsible contractors, often cutting bid prices below anticipated costs. Contractors thus performing contracts at a loss were enabled to thrive, especially during the period immediately preceding the depression.

(11) The Kick-Back Racket. - To avoid the payment of wage scales required by Union agreements or otherwise, there developed what became known as the "kick-back racket." In order to undercut the required rate, some contractors would pay the required scale to their employees in full. Thereupon, the employees, immediately upon the receipt of their pay checks, would be forced by the contractors (under the threat of losing their jobs, etc.) to give back, or "kick back" a portion of their daily or weekly earnings.

(12) The Lumping or Subletting of Labor. - When a contractor obtained a contract for a project from an owner, he might undertake to furnish only the materials for the job and to let out to a sub-contractor or a journeyman the responsibility of providing the necessary labor for the job at a specified price. Such subcontracts calling for the providing of labor alone were usually negotiated at low prices, at which the contractor who provided the material was safeguarded against loss, while the profit of the sub-contractor or labor gang foreman ordinarily depended upon his ability to hire as little labor at as low wages as possible, and to exploit the labor thus employed. The imposition of such conditions upon a sub-contractor or a journeyman gang-foreman sometimes resulted in the degradation of labor conditions and of the laborers thus hired. The results were then the debasement of labor standards for whole communities, the unsettling of competitive conditions and hurried, slipshod work, causing dissatisfaction among project owners and injuring the reputation of the original contractor.



(13) Setting Bid Prices Below Cost with the Expectation of Grinding Profits out of Subcontractors, or of Profiting by not Paying Material Bills. - By this practice a contractor submitted his bid on a project below his own estimated cost, expecting to take advantage of competition among sub-contractors in order to recoup not only the losses but also perhaps some profit. Bound up with this practice were the practices of bid peddling and bid shopping.

Trade Practices which, Because of Abusive Use, Became Detrimental

Many of the unfair trade practices in the Construction Industry are the outgrowths of normal practices, and their unfairness depends often upon the degree in which, and the purposes for which, the normal practices are engaged in.

(1) Calling for alternate bids may be justifiable to give the bidding contractors a clear leeway to suggest new and perhaps cheaper and more efficient designs and to provide an idea of the relative costs of designs. Only when an excessive number of alternate bids are required and the purpose is to beat down prices, does this practice become unfair.

(2) An awarding authority may be justified in calling for new bids upon discovering that true competition has been absent, or upon discovering that the specifications upon which bids have been received will prove to be beyond the financial means of the awarding authority. When new bids are repeatedly called for in order to beat down prices, however, an unfair trade practice results.

(3) General contractors and owners have, by contract requirements, usually withheld 10 or 15 per cent of the monthly amounts owing for work performed, usually to be paid upon the completion of a job or upon the receipt of the final payment from an owner. The practice becomes unfair, however, when the amounts withheld are excessive or are withheld for devious purposes without the consent of the creditor and in excess of amounts as provided in contracts.

(4) It is considered ethical for a sub-contractor of his own accord to pay reasonable fees for the use of a general contractor's equipment. General contractors, however, have been known to force subcontractors to use their equipment in order to overcharge them for it. And often, although not provided in contracts, general contractors will submit to sub-contractors bills demanding excessive payments for the use of the general contractor's equipment and general services. Under the latter conditions, the practice becomes unfair and is known as "excessive back charging."

(5) Inferior materials, if agreed to by the owner, may be substituted justifiably on a project for the sake of expediency, or for other reasons. The substitution of inferior materials without the knowledge of an owner, however is regarded as unfair.

(6) Unbalanced bidding may be justifiable if the owner of a project is informed of it and consents, because he is able to secure finances more cheaply than the contractor, and therefore, by unbalancing the unit price bids so that the owner, and not the contractor, will carry the heavier financing costs during most of the life of the project, a saving is achieved





on the total costs. Unbalanced bidding, however, may serve as a means for contractors to take advantage of unforeseen circumstances (foreseen by the contractors but not by the engineers who prepared the plans and specifications upon which the estimates are based), by which certain units which are bid at a high price per unit are found upon performance to exceed the number of units which were estimated, thereby enabling the contractors to profit unreasonably at the expense of owners.

(7) There are Mason Contractors in many cities and towns whose work consists largely of performance of labor contracts under which only mortar materials, scaffolding, etc., are furnished. When they secure contracts, they go into the field and hire the necessary skilled labor, while they furnish the mortar materials. Under these circumstances, therefore, the lumping or subletting of labor may be justifiable, but under other circumstances, this practice may be considered unfair both to labor and to competitors.

Of course, there may be found peculiar circumstances when some of the other practices listed as unfair may be justifiable, but, as stated, the determination of whether practices are unfair must be based upon the purposes of the practices and the degree of their use, as well as upon the practices themselves.





## Chapter VI

### THE INDUSTRY - GENERAL INFORMATION

#### Beginnings of the Industry

The mason contracting industry is probably the oldest branch of the construction industry, dating back many years B. C. when masonry was practically the only type of construction. Almost all of the old monuments and temples that are in existence today are entirely of masonry construction, such as the Pyramids, the Sphinx, the Great Wall of China, the Catacombs of Rome, the Coliseum of Rome, and many others.

The general contract system had its beginning about the year 1884. Prior to that time practically all masonry contract work was done by specialized masonry contractors on separate contracts, signed direct with the owners and executed under the direction of the architect or master builder who served the owner as designer and supervisor of the work.

#### Distribution of Masonry Work in the Construction Industry

In the building field the majority of the general contractors developed from masonry and carpentry contractors and they generally elected to construct either the masonry or carpentry work or both, with their own forces. As a result of this evolution, mason subcontractors have handled a declining percentage of masonry construction work, although this tendency has occasionally been reversed for periods of several years, when the "broker" type of general contractor, or speculative builder, was active.

For the above reasons, masonry construction is scattered through many divisions of the construction industry, where varying business methods of handling it have developed. The mason contractor, has, however, ordinarily remained in the building division of the industry, where he takes separate contracts direct from the owner, or subcontracts from the general building contractor. Mason contractors quite generally develop from skilled mechanics; hence there is considerable disparity between the older and larger mason contracting firms and the many hundreds of small mason contractors whose credit is limited and whose volume of business is very small.

#### Changes in Building Construction and Their Effect on the Mason Contracting Industry

The rapid expansion of the building industry and the consequent increase in demand for building materials have greatly accelerated the mechanization of the industries producing materials and the development of new fireproof materials.

In recent years the development of structural steel, concrete, load bearing hollow tile, partition tile, gypsum products, cast stone, terra cotta, and many other materials has greatly changed the methods of construction and the types, height, and general design of buildings.

Prior to the development of steel and reinforced concrete frames, masonry wall construction was a limiting factor in the height of buildings. The



masonry form of construction necessitated massive walls to support the structure above the first floor and consequently the rentable space on the lower floors, the highest rent producing space, was somewhat reduced. Economy of space was a potent incentive in the search for new building materials and methods. With the advent of the steel frame and reinforced concrete construction, the massive masonry walls were eliminated, light masonry curtain walls taking their place. Interior wood partitions were replaced by light, non-bearing tile partitions, thereby eliminating great fire hazards.

#### Financial Condition of the Industry

There are no data available on the financial condition of the Industry. The Code Authority without furnishing any figures to substantiate the statement, stated that in 1935 the financial condition had improved considerably over 1931, but was worse than it was in 1929.

A somewhat rough indication of the trend in gross income and net income in the Industry between 1929 and 1932 may be had from a study of income tax reports made to the Bureau of Internal Revenue by all classes of construction contractors. Data from this source for 1929, 1931, and 1932 are given in Table XIII.



TABLE XIII

Gross and Net Income, 1929, 1931, and 1932

Combined Returns for Building and Construction Above Ground and Other Construction Underground and on Surface (Not Buildings) a/

Item	1929			1931			1932		
	Total	Reporting Net Income	Reporting No Net Income	Total	Reporting Net Income	Reporting No Net Income	Total	Reporting Net Income	Reporting No Net Income
Number of corporations	18,092	10,318	7,774	17,873	6,374	11,499	17,083	2,083	15,000
Gross Income (000's)	\$2,972,858	\$2,230,951	\$741,907	\$2,120,292	\$1,151,013	\$969,279	\$1,362,926	\$432,960	\$929,966
Net Income or Deficit (000's)	+\$109,129	+\$172,214	-\$63,085	-\$27,126	+\$76,221	-\$103,347	-\$108,804	+\$26,295	-\$135,099

-26-

Source: Bureau of Internal Revenue, Statistics of Income for specified years.

- "Building and Construction above Ground," according to the Bureau of Internal Revenue, comprises:
- (a) Building by contract, iron, steel, wood, masonry (cement, concrete, mosaic, stucco or tile work); carpentering, decorating, glazing, fire proofing, painting, papering, plastering, plaster board work; tinsmithing; roofing work (compound, metal, shingle, slag); sheet metal work;
- (b) Installing machinery and equipment-carrier, cleaning, fire protection, vacuum or ventilating systems; elevators; soda fountains; tanks; millwrighting; plumbing, heating, lighting, and electrical contractors; and (c) moving, razing or wrecking buildings and sale of material (not including marine wrecking).

- "Other Construction Underground and on Surface (Not Buildings)," according to the Bureau, comprises:
- (a) Bridge Building; blasting; caisson work; clearing, grading or reclaiming lands; excavating for canals.



Organizations of Labor Employed by Mason Contractors

Four principal classes of workers are employed by mason contractors -- bricklayers, carpenters, hod carriers, and hoisting engineers -- and each of these classes is organized in a separate union. The total voting strength of each union, as reported at the annual conventions of the American Federation of Labor in 1929 and 1933, is given in Table XIV.

TABLE XIV

Voting Strength of Trade Unions Functioning in the Mason Contracting Industry

Union	Voting Strength Reported		Percentage Decline in Voting Strength 1929 to 1933
	1929	1933	
Bricklayers, Masons, and Plasterers International Union of America	90,000	45,800	-49
International Hod Carriers, Building, and Common Laborers Union of America	91,700	52,100	-43
United Brotherhood of Carpenters and Joiners of America	322,000	205,800	-35
International Union of Operating Engineers	35,000	35,000	+ 6

Source: Reports of the proceedings of the annual conventions of the American Federation of Labor in 1929 and 1933.

Jurisdictional Disputes of Trade Unions

The development of reinforced concrete encroached upon the work done by members of the Mason Industry. During the early years of its introduction, jurisdictional disputes and regulations seeking to resist its use existed all over the country. Soon after 1900 the powerful Bricklayers, Masons, and Plasterers International Union began to feel the seriousness of the intrusion of concrete. Plans were made to thwart its popularity as a building material. The 1904 convention of the union considered a resolution instructing the incoming executive board to send to each local a notice to report all instances in its vicinity where concrete construction showed defects of cracking, breaking, total or partial collapse.

The journal of the masons' union, during the succeeding years, carried editorials, articles, and advertisements describing the collapse of concrete structures and sounding warnings as to the deficiencies of the material and the danger of using it. The union also contended that the adoption of the various concrete systems used in construction were experimental and uncertain at their best; that the work required the most skillful mechanics; and that all the concrete systems taking the form of masonry construction came under the skilled mechanics' jurisdiction. They further maintained that bricklayers and masons were best fitted to do the work.







Finally the futility of dictating methods of construction and technical processes to the Construction Industry became apparent to the union and other tactics were adopted. By 1910, when the use of concrete was already well established, it was decided the better policy would be to encourage the use of concrete, but irrespective of this new attitude, the masons' union never succeeded in getting full control over concrete construction.

While the masons were wavering between a policy of opposition and one of endorsement, the cement finishers organized themselves into a separate union, the Brotherhood of Cement Workers, and claimed control of concrete construction in a number of cities. This resulted in jurisdictional disputes between the new union and the Bricklayers, Masons, and Plasterers Union. The stone masons were probably hardest hit, since concrete displaced more stonework than brickwork.

Prior to the use of concrete, foundations were built of stone. Concrete or cement blocks are now more frequently used and wherever the bricklayers' union controlled this work they permitted the stonemasons to put in the foundations. Later the union also permitted stonemasons to lay terra cotta, primarily to make up for the reduction in the amount of their work occasioned by the widespread use of concrete.

#### Effect of New Materials and New Technique on Workers

New materials have produced new specializations and new unions, thus intensifying competition for work and making the problem of reducing seasonal unemployment more difficult. The use of machinery to dress stone and of substitutes for stone have made it difficult for the stone cutters to secure work at their craft. The Bricklayers, Masons, and Plasterers Union met this condition by permitting the stone cutters to lay bricks with improvers' cards until they could qualify to join the bricklayers union.

The bricklaying craft seems to be relatively safe from an encroachment of machinery, although the operations have been mechanized to some extent by mortar mixing machines and hoisting devices.

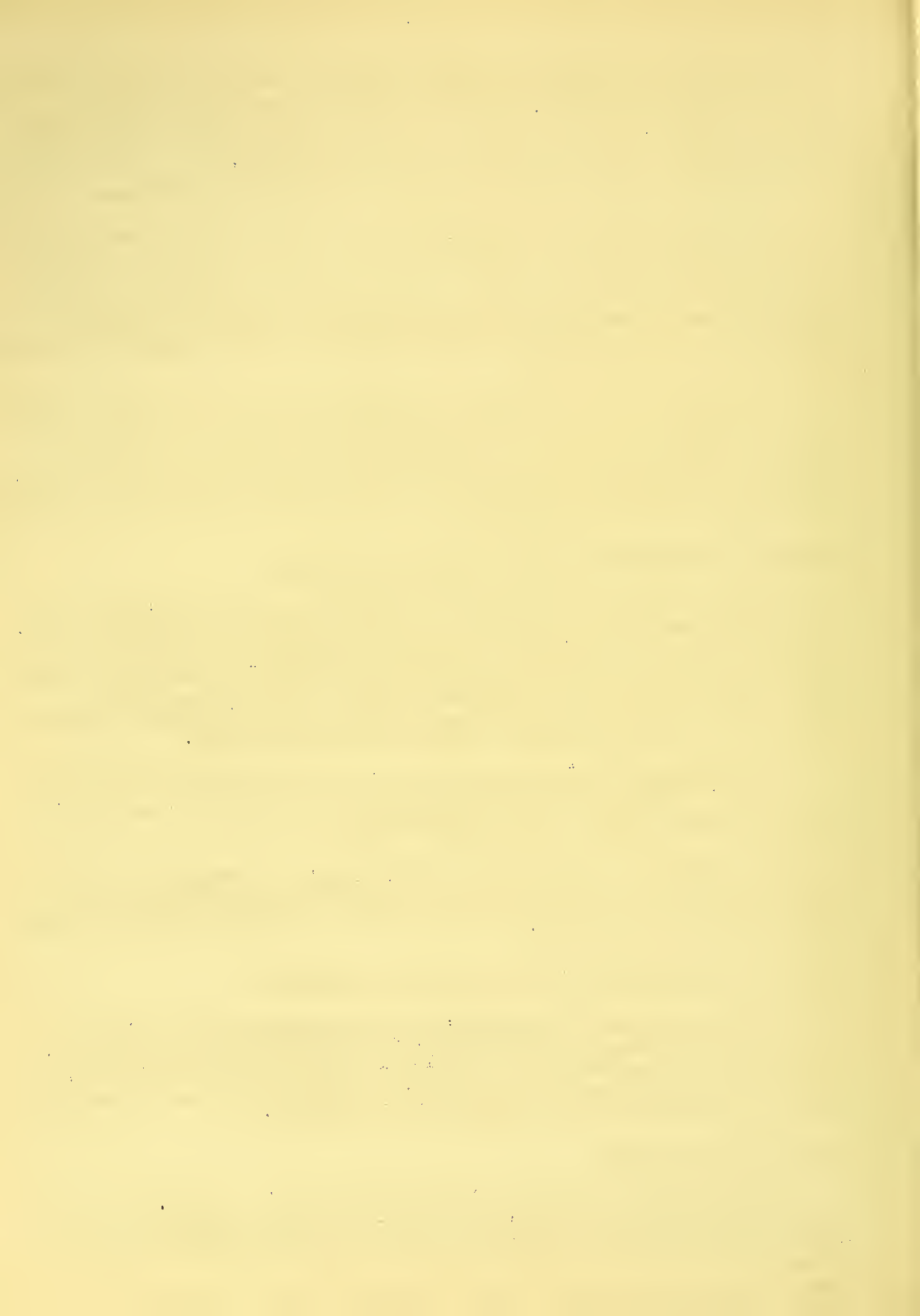
For a majority of the building trades unions, the monopoly of skill is slowly becoming of less significance. Jurisdictional definitions and the closed shop are practically their sole means of protection from semi-skilled workers outside of the unions.

#### Effect of New Materials and New Technique on Employers

Technical changes, new processes, and new materials have affected not only the organizations of workers, but also the organizations of employers. The invention of new materials has developed "specialist" subcontractors, who, in turn, have created other problems. Specialization has presented the same type of problem to the employer as to the workers.

#### The Effect of the Code

The effect of the Code upon the Mason Contractors' Industry, as in the Construction Industry as a whole, is believed to have diminished to an unknown degree the number of members regularly engaged in unfair trade practices.



No data are available to determine the extent to which the Code helped to maintain bid prices above costs, although it is believed that the general influence of codification upon wage levels and trade practices in the Industry may have helped to maintain bid prices among the members.

Wage rates, cited previously, indicate that the average hourly rates for masons and masons' tenders declined from 1929 to 1933, but show an increase in 1934 over 1933.

#### Experts in the Industry

The Code Authority submitted the names of the following individuals who are, because of their training and experience, thoroughly familiar with conditions in the Industry:

William F. Krah  
211 N. LaSalle St., Chicago, Ill.  
President, Mason Builders. Chicago, Ill.

Emile Debitsch  
President, Mason Builders, New York City

John Rooney  
77 Summer St., Boston, Massachusetts

William R. Chapman  
Medical Arts Building, Philadelphia, Penna.

D. De Sabatino  
839 Tatueel St., Wilmington, Del.

Albert G. Weist  
622 Broadway, Lakewood, Ohio

Carter G. Lyon  
Memphis, Tennessee





